



COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH

FOOD AND HOUSING DIVISION

POOL AND SPA TERMS AND MAINTENANCE INFORMATION

A. DEFINITIONS OF TERMS COMMONLY USED

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| ACID | - A granular or liquid product used to neutralize alkaline salts in water and lower the pH. (Note: Does not include cyanuric acid) |
| ACIDITY | - Amount of acid in the pool water as shown by pH levels less than 7. |
| ALKALINITY | - Amount of alkaline salts in the pool water as shown by pH levels greater than 7. |
| ALGAE | - Tiny plant growth in the water which may cause a slimy feeling; it may appear green, brown or black. |
| ALGAECIDES | - Chemicals which kill algae and prevent new algae growth. |
| BACTERIA | - Microscopic organisms which are continuously entering pool water via swimmers, dust, dirt, etc. |
| CHLORAMINES | - Compounds formed when chlorine combines with nitrogen from urine, perspiration, etc. |
| CHLORINE | - A chemical used to disinfect water. It kills bacteria and algae. The California Code of Regulations requires a minimum free chlorine residual of 1.0 ppm (1.5 in pools with stabilizer) and County policy recommends no more than 10 ppm. |
| CONDITIONER | - A chemical which helps prolong the useful life of chlorine in the water by slowing down chlorine decay due to sunlight. (See cyanuric acid) |
| CYANURIC ACID | - Cyanuric acid is a chlorine stabilizer that is present in many granulated chlorine products. It should be tested periodically and should not exceed 100 ppm. If it does, the pool must be partially drained and refilled to lower the levels. Excessive levels can interface with the effectiveness of the chlorine. |

PPM	- Parts Per Million, the standard measure of concentration in swimming pools. An example is one penny in 1,000,000 or one penny in 10,000 dollars.
pH	- The reading on your test kit that indicates acidity or alkalinity level of water; readings above 7 are alkaline; below 7 are acidic and 7 is neutral.
pH BALANCE	- A term used to describe the proper pH level (7.2 to 8.0 on pH scale of your test kit), as required by the California Code of Regulations, Title 22.
SODA ASH	- A chemical which increases pH and total alkalinity. Used primarily to bring pH up when pool water pH is below 7.2.
STABILIZER	- Same as Conditioner
SUPER CHLORINATION	- (Shock Treatment) The practice of adding 5-10 times the normal chlorine dose to destroy algae, or reach breakpoint for the reduction of chloramines.
TOTAL ALKALINITY	- A measure primarily of the carbonates and hydroxides which if kept around 100 ppm will help the pool water resist change in pH (i.e., a buffer that stabilizes the pH).

B. COMMON PROBLEMS ENCOUNTERED

1. **ALGAE** - Green cloudy water and/or dark green or black spots on pool shell.

Causes:

- a. Insufficient chlorine
- b. Not following routine pool maintenance, including testing and shock treating
- c. Plaster in bad shape (i.e., etched or cracked)

Remedies:

- a. Superchlorinate
- b. Adjust pH 7.2-7.6
- c. Brush spots with algae brush
- d. Use approved algaecide
- e. Refinish pool surface

2. **CLOUDY WATER** - Water appears murky or cloudy looking

Causes:

- a. Algae
- b. Inefficient recirculation and/or filtration
- c. Improper chemistry (pH and disinfection levels)
- d. Calcium particles coming out of solution

Remedies:

- a. Inspect recirculation equipment for proper size and operation
- b. Adjust pH 7.2-7.6
- c. Maintain chlorine level at 1.5 ppm
- d. Check water balance

3. **SCALE** - White, gray, or brownish deposits on tile, railings and the pool shell.

Causes:

- a. Calcium deposits caused by excessively hard water
- b. Accumulation of dissolved solids (particles left as water evaporates)

Remedies:

- a. Adjust pH to 7.2-7.6
- b. Use Scale & Iron Remover with a brush to remove scale deposits on plaster and tile
- c. Check water balance

4. **EYEBURN AND CHLORINE-LIKE ODORS**

Causes:

- a. Improper pH
- b. Combined chlorine (chloramines)

Remedies:

- a. Superchlorinate
- b. Adjust pH to proper 7.2-7.6 range
- c. Maintain proper levels of pH, total alkalinity, and free chlorine residual

C. TESTING THE CHEMICALS IN THE WATER

Testing your pool is a key step in keeping your pool water clean, safe, and sparkling blue. A test kit that measures free chlorine residual is required.

- Take samples about 18" below the surface of the water and away from return lines and swimmers.
- Perform test out of direct sunlight
- Store your kit out of direct sunlight in a dry, cool, dark place

- Fresh test kit reagents ensure accurate test results.

Replace your test chemicals at the beginning of each season. Check with your commercial pool supplier for complete line of replacement reagents.

MAINTAINING THE PROPER pH LEVELS: The pH of your pool water should always be between 7.2 and 8.0. If it is lower or higher, the chlorine in your water won't work well. The right pH is also important to your comfort in water. Eye irritation can be caused by the wrong pH balance. Low pH also causes etching of the plaster and corrosion of the metal portions of the recirculation system; high pH can turn pool water cloudy. To balance pH, apply pH Plus (Soda Ash) and pH Minus (Acid) according to the label directions.

MAINTAINING THE PROPER CHLORINE LEVEL: Chlorine is used to kill bacteria and algae and will keep your pool water clear and clean. There are different ways to chlorinate a pool. Some chemicals offer a built-in stabilizer and more convenience, but all adequately keep your pool water sanitary.

MAINTAINING THE PROPER CYANURIC ACID LEVELS: Cyanuric acid is a chlorine stabilizer that is present in many granulated chlorine products. It should be tested periodically and should not exceed 100 ppm. If it does, the pool must be partially drained and refilled to lower the levels. Excessive levels can interfere with the effectiveness of the chlorine.

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